To: Miller, Linda[miller.linda@epa.gov]; Ryan, Daniel[Ryan.Daniel@epa.gov]; Melvin, Karen[Melvin.Karen@epa.gov]; Hodgkiss, Kathy[Hodgkiss.Kathy@epa.gov]; Kelly, Jack (R3 Phila.)[Kelly.Jack@epa.gov]; Smith, Bonnie[smith.bonnie@epa.gov]; White, Terri-A[White.Terri-A@epa.gov]; Levine, Carolyn[Levine.Carolyn@epa.gov]; Nelson, Mark[Nelson.Mark@epa.gov]; Arguto, William[Arguto.William@epa.gov]; binetti, victoria[binetti.victoria@epa.gov]; Burns, Francis[Burns.Fran@epa.gov]; Caporale, Cynthia[Caporale.Cynthia@epa.gov]; Capacasa, Jon[Capacasa.jon@epa.gov]; Bowles, Jack[Bowles.Jack@epa.gov]; Wisniewski, Patti-Kay[Wisniewski.Patti-Kay@epa.gov]
Cc: frankel, michael[frankel.michael@epa.gov]
From: Ferrell, Mark
Sent: Tue 3/25/2014 7:13:47 PM
Subject: WV - trace amounts of MCHM

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Water testing team finds MCHM in home near treatment plant

West Virginia American Water said today new testing has found what it called "trace amounts" of the chemical MCHM coming from its Elk River treatment plant.

By Ken Ward Jr.
The Charleston Gazette
Advertiser

West Virginia American Water said today new testing has found what it called "trace amounts" of the chemical MCHM coming from its Elk River treatment plant.

The testing showed levels of the chemical between 0.5 parts per billion and 1.0 parts per billion in treated water sampled on Friday and Saturday, according to a press release.

Water company officials said the concentrations found "are so low that they are considered estimates by the laboratory because they are too low to be quantified."

"It is not unexpected that MCHM effectively captured in the filter material may show up in trace amounts in water leaving the plant," water company President Jeff McIntyre said. "As we committed to our customers, we will be changing out the nearly 500 tons of granulated activated carbon in our plant's 16 filters as soon as operational conditions allow, which is scheduled to begin next week."

The new water plant tests come after a scientific team hired by the Tomblin administration found MCHM in the tap water of a home near West Virginia American Water's Elk River treatment plant, a discovery that "implied there could be a source" of the chemical in that water treatment facility.

In a prepared statement, the West Virginia Testing Assessment Project said the March 18 sampling found a level of 4-MCHM in the home that was greater than 0.5 parts per billion, but less than 1 part per billion. Testing that same day -- using a method that would detect levels as low as 0.5 parts per billion -- did not detect the chemical in Elk River water entering the

treatment plant.

"This finding implied that there could be a source of 4-MCHM in the water treatment facility," a press release from the WVTAP team said.

The newly revealed test results did not show chemical concentrations anywhere near the 1 part per million, or 1,000 parts per billion, health screening level devised by the U.S. Centers for Disease Control in the wake of the Jan. 9 spill of MCHM and other chemicals into the Elk River, which provides drinking water for 300,000 people in a nine-county region around Charleston.

But Andrew Whelton, a University of South Alabama environmental engineer who is leading the WVTAP efforts, said the finding is still important.

"When you're trying to decontaminate a water system, you want to remove all of the contaminated water," Whelton said. "The question I have is whether MCHM is still in the drinking water and if it is, how long will it take to get it out?"

Whelton's group is scheduled on Friday to release the findings of its initial water testing at 10 homes across the region, aimed at figuring out if MCHM or other chemicals from the spill somehow remain in the water system or have become absorbed by home plumbing systems. WVTAP has scheduled a public meeting, from 9:30 a.m. to 3 p.m., in the Ferrell Hall Auditorium at West Virginia State University in Institute to release those results.

But the new home testing results made public today were not part of the 10-home survey, and were taken to help WVTAP scientists develop additional background on conditions in the Elk River. The samples were taken by the West Virginia National Guard and sent to WVTAP's partner laboratory, Eurofins, in Lancaster, Pa., for analysis.

After receiving positive results for MCHM on March 21, the WVTAP team asked West Virginia American Water to conduct additional sampling before, within, and following the company's treatment plant. The water company did so, and those results were released early this afternoon.

The WVTAP project was launched last month by Gov. Earl Ray Tomblin amid significant public pressure over concerns about lingering and long-term impacts of the leak from the Freedom Industries chemical tank farm along the Elk River, just 1.5 miles upstream from the water company's regional plant intake.

Previously, state government officials had tested water only at West Virginia American's Elk River plant, and at public locations such as fire hydrants and schools. Whelton's research aims to figure out if something about different sorts of plumbing systems has caused MCHM or other spill chemicals to be absorbed into those plumbing systems, and periodically re-released into residents' drinking water.

In its press release today, the WVTAP team provided MCHM water sampling data that included information on detection of the chemical at far lower concentrations than state officials and the water company have previously been providing to the public.

State officials and the water company have touted the "non-detect" results from periodic tests that would detect and report chemical concentrations as low as 10 parts per billion and, starting in late February, as low as 2 parts per billion. In early March, for example, West Virginia American Water issued a press release that announced all of its testing results were below the 2-part-per-billion level that labs were reporting.

"Since February 14th, we have worked with laboratories to test down to 2 ppb or less of MCHM, and as of February 25th, levels of the chemical are below this non-detect threshold throughout the water distribution system," McIntyre said. "More than 30 employees from American Water subsidiaries in Kentucky, Pennsylvania, Indiana and Illinois have worked tirelessly with our West Virginia employees to flush approximately 2,000 small dead end water mains in the system. Now that we no longer have detectable levels of MCHM throughout our distribution system and have assisted Queen Shoals PSD to also achieve this in their system, we have concluded our systematic flushing operations in the Kanawha Valley."

Testing for extremely small concentrations of chemicals can be very difficult, and generally speaking, the lower the levels that are being detected, the less confident scientists are in whether the concentrations shown on lab results are the true concentrations.

Previously, state officials and the water company have been giving the public data about one detection level, called the reporting limit or the minimum reporting limit, or MDL. This is considered the lowest concentration at which a substance can be detected in a sample and its concentration can be reported with a reasonable degree of accuracy and precision.

Another number chemists use is called the method detection level or method detection limit, known as the MDL. This is the value at which a laboratory can theoretically differentiate a value from zero. This means the chemical was detected by the laboratory, but the exact value of how much chemical was present could not be determined.

For example, when the state was reporting to the public test results down to 2 parts per billion of MCHM, that was the laboratory's MRL. The MDL for those tests was 0.8 parts per billion and, later, as testing improved even more, 0.4 parts per billion, officials have said. The public, though, was only being given the MRL results. So if a laboratory detected somewhere between 0.4 and 2.0 parts per billion, the only results made public were the "non-detect" results for the 2.0 ppb MRL.

Lawrence Messina, a spokesman for the state Department of Military Affairs and Public Safety, said the state's contracted laboratory was providing state officials only with the MRL results, and was not providing the MDL results. Messina said lab officials expressed concerns about "the accuracy of readings" at the MDL, including "the potential for false positives."

"The state has consistently sought results that are accurate and reliable, and has consistently shared all such results with the public," Messina said.

Whelton has said the Eurofins, one of two labs being used by the state-funded, but independent

WVTAP project, has an MRL of 1 part per billion and an MDL of 0.5 parts per billion. The home results reported in today's press release indicated some level of 4-MCHM found in the tap water above the 0.5 ppb MDL, but below the 1 ppb MRL. Whelton said WVTAP will continue to provide the public with both sets of results for all of its testing.

"Certainly, knowing if the chemical was present below the MRL but above the MDL is important information when interpreting chemical analysis results," Whelton said in an e-mail message. "While chemical presence or presence/absence information is not quantitative, it can provide information about whether the chemical is present at all."

In an interview today, Whelton added, "It's important to define what non-detect means. Non-detect means that the instrumentation and the methods used could not detect anything in the water. That doesn't mean it's not in the water."

Reach Ken Ward Jr. at kw...@wvgazette.com or 304-348-1702.

Mark Ferrell

EPA Region 3

Office of State and Congressional Relations

West Virginia Liaison

Charleston, W.Va.

(304) 542-0231